

INTERNATIONAL SEARCH REPORT

Int'l. application No.
PCT/US95/00108

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) :C12N 9/02, 15/53
US CL :435/189; 536/23.2

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 435/189, 172.3, 320.1, 252.3, 252.33; 536/23.2

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Please See Extra Sheet.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FEBS Letters, Volume 307, No. 2, issued July 1992, G. Sala-Newby et al., "Engineering Firefly Luciferase as an Indicator of Cyclic AMP-Dependent Protein Kinase in Living Cells", pages 241-244, see entire document.	1, 2, 5, 6, 18, 19, 22, 23
X	BIOCHEMICAL JOURNAL, Volume 279, issued November 1991, G. Sala-Newby et al., "Engineering a Bioluminescent Indicator for Cyclic AMP-Dependent Protein Kinase", pages 727-732, see entire document.	1, 2, 5, 6, 18, 19, 22, 23
A	PROTEIN ENGINEERING, Volume 4, No. 6, issued August 1991, N. Kajiyama et al., "Isolation and Characterization of Mutants of Firefly Luciferase Which Produce Different Colors of Light", pages 691-693.	1-34

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:	*T*	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
A document defining the general state of the art which is not considered to be of particular relevance	*X*	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
E earlier document published on or after the international filing date	*Y*	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
L document which may throw doubt on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*&*	document member of the same patent family
O document referring to an oral disclosure, use, exhibition or other means		
P document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search	Date of mailing of the international search report
05 APRIL 1995	17APR1995
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer <i>Deborah Freese</i> REBECCA PROUTY
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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JOURNAL OF BIOLUMINESCENCE AND CHEMILUMINESCENCE, Volume 5, issued April 1990, K.V. Wood, "Luc Genes: Introduction of Colour Into Bioluminescence Assays", pages 107-114.	1-34
A	JOURNAL OF BIOLUMINESCENCE AND CHEMILUMINESCENCE, Volume 4, issued July 1989, K.V. Wood et al., "Introduction to Beetle Luciferases and Their Applications", pages 289-301.	1-34
A	JOURNAL OF BIOLUMINESCENCE AND CHEMILUMINESCENCE, Volume 4, issued July 1989, K.V. Wood et al., "Bioluminescent Click Beetles Revisited", pages 31-39.	1-34
A	SCIENCE, Volume 244, issued 12 May 1989, K.V. Wood et al., "Complementary DNA Coding Click Beetle Luciferases Can Elicit Bioluminescence of Different Colors", pages 700-702.	1-34

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B. FIELDS SEARCHED

Electronic data bases consulted (Name of data base and where practicable terms used):

APS, MEDLINE, BIOSIS, LIFESCI, EMBASE, WPI, BIOTECHDS, CA
search terms: luciferase#, muta? or modif?, gene# or sequence#, beetle# or firefl?, pyrophorus or plagiophthalamus,
photinus or luciola